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## ADDRESS

BY

Mr. C. W. GALLOWAY,

VICE-PRESIDENT, IN CHARGE OF OPERATION AND  
MAINTENANCE, THE BALTIMORE AND OHIO  
RAILROAD COMPANY.

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### THE IMPORTANCE OF SAFETY IN RAILROAD OPERATION

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DELIVERED AT  
TENTH ANNUAL CONGRESS OF THE STEAM RAILROAD SECTION,  
NATIONAL SAFETY COUNCIL,  
HELD IN THE  
STATE HOUSE, BOSTON, MASS.,  
SEPTEMBER 27, 1921,

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*Mr. Chairman, Ladies and Gentlemen:*

I appreciate the opportunity of being able to come here today. Our great enthusiast on Safety, Mr. Broderick, told me when I showed him the invitation, that I ought to go. I asked him what I ought to say, and he said, "You know what to say." So I wrote out what I thought I would like to say, and I sent for him and told him to look it over. He told me what he thought about it. He came back in a few hours and looked very sad and said, in response to my, "Well, how about it?" "You don't mind my telling you what I think of it, do you?" I said, "No." He said, "It is no good. I will write you a speech that is worth reading, and as long as you are going to read it, you don't need to make any apology." One gentleman apologized and read, and another asked permission. I have no excuse for not reading it because I was told it was a "paper to be presented." In other words, I was instructed to read it. I also understand that it was insisted upon that it be sent ahead to be printed, but, in order to have an excuse for reading it, I changed it so it is a little different from the one that has been printed and distributed.

There are today few lines of industry, if, indeed, there is any which have not been convinced that safety work among employes is indispensable. There is no disputing the fact that it is a real, live energetic force in the accomplishment of success in industry.

Despite the knowledge that safety endeavor is as indispensable in a plant employing large groups of men as are tools, or machinery, in the critical months just back of us there were, unhappily, some industries which exposed their man-power to its old habits by a pause in safety endeavor. When it was found necessary to curtail expenditures, some supervising officers began with the safety department. With the slogan of "economy" or "retrenchment" came the demand for greater efficiency. Yet the basis of efficiency; namely, safety, was undermined by some industrial leaders. I believe the Steam Railroad Section of the National Safety Council can justly be proud of the fact that its efficiency has been so well established that its work will not be hampered by such practices.

There was a day, when construction specialists, in planning a factory, a railroad, or any other place where men and machinery

would come in contact, gave as little consideration to the *safe* placing of machinery, tool rooms, cranes, trackage, etc., as they did to fly-screening. Happily, that day has passed. Now engineers consider *all* construction from the standpoint of *safe* operation. Even before the human element enters a plant, science has done its part to make conditions safe and sanitary.

This came about, primarily, because of economic necessity, and also because of the indefatigable plans carried out by you men directing the fight against carelessness. There were employers keen enough to see that the monetary losses from unsafe conditions and practices were unnecessary and were becoming a serious and continuous drain upon the treasury.

### Work of Section Saves Thousands of Lives.

It was only a step from the economic to the humanitarian aspect and I feel certain it was the latter which gave birth to the National Safety Council. The magnificent and magnanimous efforts of this body, directed towards the preservation of human life and happiness, is one of the bright spots in the history of safety in the United States. There are men within the sound of my voice whose inspiration and efforts have saved the lives of thousands of our best transportation workers.

The world applauds generously whenever a grateful nation presents to some conspicuous military or political leader a cross of honor for his gallantry in armed combat or in subtle conflict of words and ideas. The extent of their victory in combat is measured by the number and helplessness of their victims. Yet leaders in safety work go on, year in and year out, with no praise of victory sung in their honor; with no material rewards other than their stipulated salaries, and, at times with only scorn from those they have actually saved from the grave or from life-long suffering.

An ungrateful world may have passed you safety men by, (I see none of you wearing, at least conspicuously, any golden or bejeweled insignia of honor conferred by civil authority.) But you have in your breast the feeling of elation and satisfaction that comes to those who have done a good work well. You have the gratitude and encouragement of your superior officers. That, after all, surpasses in value the world's plaudits, for you all know the fickleness of public approval.

To me it is an inspiration to be permitted to appear before such a sturdy, courageous, intelligent group of men such as you, gathered here to help humanity in its struggle towards happiness. The world often sneers at and belittles your efforts; the very men you strive to preserve in health and contentment sometimes in caustic words try to belittle your accomplishments. But the undaunted manner in which your work has been carried on makes the Steam Railroad Section of the National Safety Council deserving of unending praise.

### **Helping To Save Careless Railroad Employes.**

I have watched the progress of the safety work on the Baltimore and Ohio particularly for many years. I have seen some of my friends become careless and lose their lives and some permanently or temporarily crippled. Reports of casualties come to my desk at times and cause me to find tears in my eyes, bedimming the words written upon the report. Men whom I have talked to only a short time previously are reported dead or with arms or legs missing. I realize then that safety has a personal contact. I realize, too, that if I am any sort of a man at all, I must help save from death and injury some of the best railroad men, who are careless of their lives and limbs. This has made me throw my full support to accident prevention work.

Many of us read with impunity casualties reported in the daily press, or from railroad reports, until the day comes when an intimate acquaintance, a friend, perhaps a relative is the victim. Then we begin to think. Then we turn over in our minds the fact that something ought to be done to prevent the recurrence of this accident; to stop ALL accidents. That's bordering on selfishness, as regards the rest of mankind, I'll admit. But we are aroused.

### **What the Baltimore and Ohio Has Done In Safety.**

It is with no little pride that I point to some of the accomplishments for safety on the Baltimore and Ohio in recent years:

In 1915 the casualties among employes totaled...	9,659
In 1920 the casualties among employes totaled...	6,941
Or a decrease in casualties of.....	28%

### Gross Ton Mileage Compared.

Let us turn now to the amount of business that we handled in these two years, for the greater the business, the greater the number of trains moving and the greater is the liability of accidents.

In 1915 the gross ton mileage was.....	32,335,710,000
In 1920 the gross ton mileage was.....	40,867,502,000
Or an increase of.....	26%

### Gross Ton Miles Per Casualty.

Analyzing this a little, we can see that

In 1915 the gross ton miles per casualty were	3,347,728
In 1920 the gross ton miles per casualty were	5,887,841
Or an increase of gross ton miles per casualty	76%

### Train Miles Compared.

From another angle the comparison is interesting:

In 1915 the freight train miles were.....	18,680,091
In 1915 the passenger train miles were.....	16,650,136
Or a total train mileage of.....	35,330,227
In 1920 the freight train miles were.....	23,627,077
In 1920 the passenger train miles were.....	16,390,788
Or a total train mileage of.....	40,017,865

### Percentages Compared.

That means that in 1920, compared with 1915, the increase in train mileage, both freight and passenger, was.....13%  
And at the same time our casualties decreased. ....28%

### Results of Spring Drive at Fourteen Points.

We reached the pinnacle on the Baltimore and Ohio last spring, when we conducted a special test of sixty days' duration, during April and May. Fourteen of our most important terminals were chosen for the test. Foremen and other supervising officers were held responsible for any avoidable accidents occurring among men under their jurisdiction.

The final results showed that the winning terminal on the Eastern Lines, East Side Shops and Yards at Philadelphia, worked 1,558

per cent. more man-hours per casualty this year than during the 60 days in the same months last year. The winning terminal on the Western Lines, Toledo, had a gain of 1,314 per cent in man-hours per casualty. Total casualties were reduced, as follows:

Eastern Lines.....	82 per cent.
Western Lines.....	79 per cent.
System .....	81 per cent.

This is a gratifying record. It could have been achieved only after a long period of intensive safety effort, such as we have had in the last ten years. It also proved the contention that the interest and cooperation of all officials from the president down is essential for success in safety work. Our president has placed "safety above everything else." And rightly so. Any laxity on the part of a supervising officer will be detrimental to a good safety organization.

I would urge upon those in supervising positions to give due consideration to the safety work, even in the days when the most economical handling of railroad work is required by the exigencies of the times. What is the advantage of curtailing expenditures in one direction and increasing them through claims? If we must turn off the spigot, let's make sure the bunghole is tight. It was necessary, of course, for our railroad, like all others, to curtail expenditures last spring in every direction we could and we are still curtailing. I am certain, however, safety work on the Baltimore and Ohio did not suffer, nor was the work even hampered.

### Activities of Safety Committees.

Our safety committeemen are still as active as they were a year ago. In the year 1920, our safety committeemen numbered 1,587. Every one of these men was continuously seeking out bad practices and conditions. They made reports of 13,824 unsafe conditions and practices and 13,034 of them, or 87 per cent. were corrected. There was 9 per cent. of the total number pending and carried over to 1921. Only 4 per cent. was dropped for one reason or another.

This is a great army of trained men working to eliminate dangerous conditions and unsafe practices of themselves and their fellow employes and the results obtained are well worth the efforts they expended.

There is a parallel to the safety work to which I want to invite your interest. That is the prevention of accidents at railroad cross-

ings. I refer to this here in the hope that something may be done in a united effort to halt the growing number of deaths and injuries from this cause. With each recurring year the increase in the number of automobiles and the growing carelessness of the drivers make it of the utmost importance that we devote extraordinary effort to lessen accidents at grade crossings.

There were 4,718 persons killed in automobiles at grade crossings in the United States from January 1, 1917, to December 31, 1920, and in the same period there were 13,644 other persons injured.

### **Number of Automobiles in Use in the United States.**

In considering grade crossing accidents, we are confronted with the fact that there is yearly an increasing number of automobiles being used. It is estimated that there are ten million motor vehicles now in use in the United States. One factory which makes a low-priced car is turning out around 4,500 machines daily and has orders far ahead. Practically all manufacturers of motor driven vehicles are working near maximum production, and this means an increase in the number of motor driven vehicles which will use our railroad crossings. We must adopt the most effective measures to eliminate accidents at grade crossings so that the increase will not keep pace with the growth in the number of machines being driven.

### **Grade Crossing Campaign Needed.**

It was with alarm that I read the reports of grade crossing accidents showing increases month after month in 1919. In November of that year, I determined to take decisive steps to apply a remedy. I felt that if the drivers of cars could be reached intimately they would heed the warnings which we had determined upon.

We started the campaign by placing observers at a few crossings where travel was heavy. They were provided with a card on which could be shown the date, time of observation, and other data. When the observer noticed the driver of an automobile approach the crossing and dash over it without taking any precautionary measures whatever to assure himself that there was no train coming in either direction, the license number of the machine was recorded on a card. These cards were forwarded to my office where they were indexed in our record and then distributed among the automobile commissioners according to the state which issued the license. The

commissioners, after referring to their records, forwarded the cards to the owners of the machines, we providing the stamped envelopes.

These cards after reciting the facts of the observation, and stating the time and location, contain a warning to the drivers or owners of automobiles that their lives and property had been risked unnecessarily, and that a repetition might bring disaster. In the great majority of cases, the recipient of the card realized that he had been careless and a great many wrote us and expressed their appreciation of our efforts to save them from injury, and commended the plan.

That this method of direct dealing with the careless or thoughtless automobilists was effective is manifested by the gradually declining percentage of failures to take precautions. When we inaugurated the observation plan on the Baltimore and Ohio, we restricted it to a few crossings on our Eastern Lines, and we found that 84 per cent. of automobilists failed to take proper precautions, when crossing our tracks. This spurred us on to greater activities. In the three months

November, December 1919; January 1920, we made...	1,933
observations and there was a total of.....	484
failures to take safety precautions, or.....	25%

That meant that one driver in every four was not safeguarding his life, despite the fact that there was some kind of protection device at all the crossings checked by our observers.

### Results of Campaign.

During the year 1920, we extended our observations. In the 12 months of that year, there were.....	49,665.
observations, with.....	8,336
failures, or.....	16%

In 1921, our observers became even more active, and in the first six months of this year, there were.....	248,988
observations made, and the failures reached only....	8,775
or.....	3½%

Please do not be deceived by these figures for our System in the first half of this year. There are still places where automobiles drivers have not been impressed with the necessity of taking care of

their lives, limbs and property. In the six months, on one division, for example, 112 machines were observed crossing our tracks and not one of them stopped, or even hesitated, to see if a train was approaching. There was another division with 89 per cent. of failures out of a total of 754 machines checked by the observers.

### Method of Distributing Warning Leaflets.

The results of our observation tests caused us to go a step further. We had printed more than four million warning leaflets, showing on one side a boy warning an automobilist to stop before he crossed a track on which a train is seen approaching. On the reverse side is an actual photograph of a machine reduced to splinters when struck by a train at a crossing, and killing both occupants. We arranged with casualty insurance companies, big mail order houses, wholesale dealers of all kinds, automobile supply houses and many other branches of business to send out the leaflets in their mail. It was found that every business house we appealed to gladly consented to cooperate in the campaign and these millions of leaflets went all over the country, and, I feel sure, did a great amount of good. I am sure some of you gentlemen received at least one of them. I trust none of you received an observation card.

The automobile commissioners of the different states through which the Baltimore and Ohio lines run also cooperated with us and sent several hundreds of thousands of the leaflets out with the license tags.

Next we posted at gas filling stations, garages, automobile club rooms, accessory dealers' shops, tire shops and other places where automobilists are accustomed to gather a larger poster in colors showing the boy halting the automobile. It was not long before 10,000 of these were in view of automobile drivers to convey the lesson of safety.

There was one other means to reach the owner and driver of the automobile. That was through newspaper publicity. One story telling of the dangers careless automobilists expose themselves to was sent out and reached 2,600,000 readers. In many instances the newspapers took up the matter editorially and commended the Baltimore and Ohio for bringing the facts to light.

### **Editorial From The Hearst Papers.**

One especially vigorous editorial appeared in the Hearst papers in the West, The San Francisco Examiner and the Chicago Herald-Examiner. The editor commented thus:

"There is never going to be any guarantee of the safety of human life that is not based upon the human factor. It is well enough to invent safety devices, but the best safety device in the world is intelligence. No amount of signs, notices, semaphores, red lanterns, machinery, or policemen can save an absent-minded man, who will not look where he is going, from breaking his neck. Safety, in other words, along with many other things we think we can get by cleverness, can only be gotten through education. There is no short cut."

That's the truth in a nutshell. We found there was no "short cut," and while it took us a long time to "go round," we have arrived almost at the goal we have been aiming at.

With genuine and sympathetic cooperation by all the railroads in some definite plan of campaign, the accidents at grade crossings in this country can be cut to less than one per cent. of the machines using the crossings, and in spite of the rapidly increasing number of motor vehicles in use. Just figure out what that will mean in saving human life as well as the saving to the railroads in claims for personal injuries and property damages for a single year. It can be done. Let's do it!

### **Failure of Appliances Not Considered.**

A stage comedian once remarked that "Familiarity breeds attempt." He might have applied that to the large number of drivers of motor vehicles who become so familiar with the appliances provided for their safety at grade crossings that they absolutely ignore them and attempt to cross the tracks without first stopping, looking and listening. We have discovered that crossing gates, regarded as one of the best preventives of accidents, do not eliminate them. Eight times last year, they were run through and damaged in a suburb of Baltimore alone, where a state highway crosses our tracks.

It sometimes happens that the automobile driver places his life in the hands of the gate tender absolutely. The gateman, being human, sometimes errs, and the driver is a victim. Electric warn-

ing bells ring so often on the approach of trains that automobilists soon fail to heed the sound of the big gong. They do not consider at all that these bells are operated by a power which sometimes fails, even at the moment of the gravest danger.

Crossing watchmen are not infallible. While automobilists and drivers of other vehicles, even pedestrians, are encouraged to look upon the protection afforded by watchmen as security against accidents, the full benefit of their services cannot be obtained without the fullest cooperation of those using the crossings.

### Specific Cases of Crossing Accidents.

We have had several distressing automobile accidents on the Baltimore and Ohio Railroad in recent years that indicate the necessity of gaining the sympathetic cooperation of owners and drivers of machines if we are to have any degree of success in cutting down the casualties. Here are a few specific cases to which I will refer:

On July 30, 1916, at Monroeville, Ohio, on our Newark Division, a passenger train (No. 8) running at a speed of thirty miles per hour struck an automobile on Sandusky Street crossing, derailing and turning over engine, derailing tank of engine, baggage car and two coaches, damaging equipment to the extent of \$1,855.00. The engineer and fireman were fatally injured, and three passengers were injured. The accident was due to the automobile being stopped on the crossing when the driver attempted to cross ahead of the train.

On January 27, 1916, at Pataskala, Ohio, on our Newark Division, passenger train No. 13 struck an automobile on Broadway street crossing, derailing engine and six cars (four mail cars, one combine and one coach), fatally injuring the driver of the automobile, slightly injuring ten postal clerks, eleven passengers and the conductor. The damage to railroad property was \$6,825.00. The accident was due to the driver disregarding the audible signal, sounded by electric alarm bell, and attempting to cross over the crossing ahead of the train. In some manner, the machine missed the crossing which is standard width, and was on the track beyond the crossing when struck by the train.

On July 21st, 1918, at The Bend, on the Chicago Division, passenger train No. 7, running at a speed of 48 miles per hour,

struck an automobile on road crossing, resulting in three persons being killed. The engine bell was ringing and the whistle was sounded as the train approached the crossing. Crossing is protected by a sign. The accident was due to the automobile being driven on the crossing directly in front of the train.

On March 7th, 1920, at Bremen, Ind., Chicago Division, an automobile bus, occupied by the driver and seven passengers, was struck on road crossing, resulting in six persons being killed. The crossing is protected by electric bell which was operating. Engine whistle was sounded and bell ringing. There was a good view approaching three hundred feet from track up to about one hundred feet.

Recently I had a very exhaustive check made of the crossing accidents on the Baltimore and Ohio and I am going to give you some data which I believe will surprise you. I took as a basis a continuous series of 138 accidents in which there were personal injuries. In these accidents there were from one to ten persons occupying the machines involved. You will understand how careless are some persons when other lives than their own are entrusted to them.

In these 138 accidents, there were

68 persons killed

160 other persons injured

#### **Analysis of 138 Accidents to Automobiles.**

Were I to ask the average railroad man what day in the week he believed the greater number of accidents happen, he would say Sunday. The 138 accidents happened on the following days of the week:

Sunday.....	15	Wednesday.....	27	Friday.....	19
Monday.....	25	Thursday.....	17	Saturday.....	20
Tuesday.....	15				

It would seem to indicate that the automobile truck is more likely to accident at crossings than the pleasure car, for there are more of them in use on week-days than on Sundays.

#### **Condition of The Weather.**

Another surprising fact that the check brought out was that nearly all of the accidents happened while the weather was clear.

This seems to indicate that persons take more chances in clear weather than when it is raining or snowing. Our check showed:

Accidents in clear weather.....	122
Accidents in cloudy weather.....	7
Accidents during rain.....	7
Accidents during fog.....	1
Accidents during snowstorm.....	1

Many times it has been felt that accidents were due to the fact that drivers were closed in by curtains, or pedestrians had umbrellas up, obscuring their vision. It appears from our check that the "chance taker" finds clear weather the best time to operate.

#### Analysis as Regards the Vision of Driver.

We likewise considered the facts bearing on the vision the driver had of the approaching trains, whether there were buildings, trees, curves, embankments, cars, signs, or weeds that would prevent an unobstructed view of approaching train. Our check showed the following:

Accidents where the vision was clear.....	113
Accidents where the vision was partially obstructed.....	25

This gives a preponderance of "clear vision" accidents and indicates that the injunction on the warning sign to "Look" before crossing the track, is not put there merely to fill up space, but as an aid to the "stopping" and "listening."

#### Kind of Protection at Crossings.

Next we considered the kind of protection afforded the driver who must pass over our tracks. The following are the facts regarding the 138 accidents which we analyzed:

Accidents where there was a standard sign only.....	72
Accidents where there were watchmen.....	20
Accidents where there were automatic bells.....	19
Accidents where there were gates.....	8

There were 19 other accidents where there was no kind of a warning device, that is, they occurred at privately owned crossings.

The question of automobile accidents at grade crossings is, I consider, the most important one the railroads have to deal with, and I cannot too strongly impress upon this body of safety men

the necessity of inaugurating a vigorous educational campaign against accidents of this character, both for humane and economic reasons.

As I said to you before, I consider that the most important thing that confronts us today. I could mention a number of others, but it would take up your time with a lot of detail, but I trust you will take that matter up, and I believe if you will analyze it on the basis that we have analyzed it, you will find there is a wide field, and if you once get started, it will surprise you how people will observe your warning.

For instance, we have had letters of criticism in some cases and letters of commendation—mostly commendation—but the important thing of all that we have developed by this campaign or that has been brought to light, is that in a number of cases we have shown to the owner of the car, that the car was out without his authority. I have had men say, where we have reported a truck, "The machine was not out on Sunday." We have proved to the man that his driver had the machine out with a lot of people.

On one occasion, a young girl driving a truck, lost control of the machine on the approach of a light engine and started up the track, with the result that the engine hit the machine, demolished it, killed one person and hurt ten or twelve others who were in it. That owner said the truck was in the garage, but he later found it was not.

Furthermore, we have found a number of cases of the unlawful use of tags. Our observation cards pass through the Commissioner's office with an addressed envelope. He has found people with machines that had no right to have the tag on the machine. We have, with this activity, started the automobile drivers to thinking in the various states in which the Baltimore and Ohio operates.

Now I am not clear what the plans are regarding the future of this Council, but my own opinion is that the best results are going to be obtained by preserving the integrity of the Safety Council. I would urge, Mr. Chairman, that efforts be made to preserve the integrity of it because of the importance of your work.

Your work is of great importance with relation to the public. You have got the railroad man pretty nearly right. You have accomplished a marvelous work in getting the men on the railroads

with whom you are assoeiated, to observe these things. What I say here about the Baltimore and Ohio is also applieable to others in so far as I know it, but you all have as good or better, and the importanee of your work eannot be too mueh emphasized. You are getting the eooperation of the railroad workers. We are getting it not only on our road, but I observe it on the others on whieh I oeeasionally travel. The feeling is generally good towards this. The Brotherhood leaders are with you. I know they are interested in this beacuse I get information from them about their interest in the direetion of safety work.

Now, having gotten that so well organized, having gotten sueh a thorough interest on the part of those men in your work, I want, at the risk of repetition, again to bring to your mind the importanee of these grade crossing aeeidents. You can't eliminate all of them. It is a stupendous task, and it is going to be years before they are. It is not fair to put all of the burden on the railroad, but in every ease a jury does, so you have got to take the next horn of the dilemma and that is to edueate the driver, not by arresting him but by demanding a higher grade of intelligence, that when a man is eareless he receive proper treatment at the hands of those issuing lieenses by having his lieense revoked. I have had a number of lieenses revoked, not only for railroad crossing eases but for other cases. If you pursue that and get the practise started, you will be surprised at the results you will get by a better observation of safety principles.

I firmly believe that if the Baltimore and Ohio had not pursued this plan, partieularly on some of our divisions where the state highways run—fine roads, where they run fast—we would have had a great many more aeeidents. But it speaks for itself when we have made nearly two hundred and fifty thousand observations in six months, and only three and one-half per cent. of what we term failures, and these were in every ease made by the same set of men.

It may interest you to know in connection with grade crossing accidents to automobiles, that a check of the reecords of 50 engineers promoted to passenger service, discloses that from the time these men were hired as firemen in freight service, until they reaehed the time when they were promoted to extra passenger engineers, averaged 17 years. A number of them were as mueh as 19 years, notwithstanding the faet that a locomotive travels on rails whieh guide

it, governed by signals which, figuratively, speak to the engineer, telling him what to do, whether or not to proceed at full speed, run slow or stop, besides various markers indicating speed limits and other conditions, and added to this the instructions which he receives from train dispatchers, and yet, a man does not reach the position to operate a passenger locomotive until he has served nearly 20 years. At the same time, an automobile, which can just run as fast as the average passenger train, is placed in the hands of an operator after a few minutes' instruction and demonstration.

I want to say, in closing, that I hope you will continue your interest in the gospel of Safety, and I want again to express my appreciation of being permitted to be with you today. I thank you.

